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REMARKS

In this First Office Action, the Examiner noted that claims 1-20 are pending in the application and that claims 1-20 are rejected. By this response claims 1, 18 and 20 are amended to more clearly define the Applicant's invention and not in response to prior art. All other claims continue unamended by this response.

In view of the following discussion, the Applicant submits that none of the claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102 or obvious under the provisions of 35 U.S.C. §103. Furthermore, the Applicants also submit that all of these claims now satisfy the requirements of 35 U.S.C. §112.

Rejections

A. 35 U.S.C. § 112

The Examiner rejected claim 10 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner stated that the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The Examiner alleges that the "two capacitors in parallel to a respective one of the feedback resistors" is not taught in the drawings of the specification.

The Applicant would like to respectfully point out to the Examiner that the "two capacitors in parallel to a respective one of the feedback resistors" of claim 10 are taught and depicted in the Applicant's FIG. 1. More specifically, capacitor C5 is parallel to feedback resistor R5 and capacitor C6 is parallel to feedback resistor R6 as depicted in FIG. 1. As such, the Applicant submits that "two capacitors", namely C5 and C6 "in parallel to a respective one of the feedback resistors", namely R5 and R6, is taught in the drawings, specifically FIG. 1, of the specification.

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As such, the Applicant respectfully requests that the Examiner's rejection of claim 10 be withdrawn. The Applicant respectfully submits that claim 10, as it now stands, is definite and hence fully satisfies the requirements of 35 U.S.C. § 112.

B. 35 U.S.C. § 102

The Examiner rejected claims 1-9, 11-14 and 17-20 under 35 U.S.C. 102(b) as being anticipated by McGinn (US Patent No. 5,333,192). The rejection is respectfully traversed.

The Examiner alleges that regarding claims 1, 18 and 20, McGinn discloses a transmission line tap circuit and its methods comprising all of the aspects of the Applicant's invention. The Applicant respectfully disagrees.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1983)) (emphasis added).

The Applicants respectfully submit that McGinn fails to teach, suggest or disclose each and every element of the Applicant's claimed invention, arranged as in the Applicant's claims.

The Applicant respectfully submits that McGinn fails to teach, disclose or suggest at least the Applicant's claim 1, which specifically recites:

"A transmission line tap circuit, comprising:
at least two input terminals configured for coupling to a transmission line;
circuitry configured to provide an impedance load to the transmission line for tapping the transmission line and receiving a transmission signal propagating there through;
circuitry configured to amplify the received transmission signal;
circuitry configured to provide an impedance match to an impedance load of at least one Line Interface Unit (LIU); and
at least two output terminals configured for coupling said transmission signal to the at least one LIU."

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In support of the Applicant's invention with respect to at least claim 1, the Applicant, in the specification, specifically recites:

"The digital transmission line tap of the present invention utilizes a single stage balanced amplification circuit arrangement to provide a high impedance tap, terminate a transmission line with a proper impedance to prevent reflections of a received signal back into the transmission line, and amplify and wave shape the received signal, while maintaining the received signal in a balanced scheme for utilization by widely available Line Interface Unit (LIU) circuits, such as integrated and other electrical circuits." (See Specification, page 2, line 18 through page 3, line 3).

The Applicant in the specification further discloses:

"The tap circuit of the present invention utilizes two fundamental principles related to the transmission line itself and the characteristics of the LIU circuits available in order to achieve the reduction in complexity and associated component count. First, the circuit design is based on the principle that the transmission line to be tapped will utilize a complete loop form one piece of transmission equipment to another. Due to this characteristic, the transmission line will be properly balanced and terminated between the equipment, thus providing a proper transmission path that results in the signal wave shape being correct at any given point on the line where the tap circuit may be employed." (See Specification, page 3, lines 7-14).

and

"Resistors R1, R2 connected to input terminals IT1, IT2 provide the high impedance load needed to tap the digital transmission line." (See Specification, page 6, lines 5-6).

It is clear from at least the portion of the Applicant's Specification depicted above that the invention of the Applicant is directed, at least in part, to a single stage balanced amplification circuit having at least two input terminals for coupling to a transmission line, circuitry configured to provide an impedance load to the transmission line for tapping the transmission line and receiving a transmission signal propagating there through, and at least two output terminals for coupling the transmission signal to at least one LIU. The tap circuit of the Applicant's invention is to be implemented on balanced transmission lines using a single stage balanced

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amplification circuit having at least two output terminals configured for coupling the tapped transmission signal to the LIU.

The Applicant respectfully submits that, in contrast to the Applicant's invention, there is absolutely no teaching, suggestion or disclosure in McGinn for a single stage balanced amplification circuit and in particular, absolutely no teaching, suggestion or disclosure in McGinn for a transmission line tap comprising a single stage balanced amplification circuit including at least "two input terminals configured for coupling to a transmission line", "circuitry configured to provide an impedance load to the transmission line for tapping the transmission line and receiving a transmission signal propagating there through" and "at least two output terminals configured for coupling said transmission signal to the at least one LIU" as taught by the Applicant's specification and claimed in at least the Applicant's claim 1. In contrast to the invention of the Applicants, McGinn specifically teaches:

"A line interface circuit for coupling signals between a telephone line and a hybrid circuit includes a loop driver circuit for supplying energizing current to the telephone line and for driving the telephone line with alternating current signals. A loop current detector connected in series between the telephone line and the loop driver circuit, generates a voltage signal in response to current flow in the telephone line." (See McGinn, Abstract).

"The line interface circuit illustrated in FIG. 1 includes tip and ring terminals 2 and 3 for connection to the tip and ring leads of a telephone line (not shown), power -V and ground GRD terminals for connection to a battery supply (not shown) and transmit and receive leads Tx and Rx for connection to an electronic hybrid circuit (not shown)." (See McGinn, col. 4, lines 4-10).

"In the line interface circuit, a tip and ring signal voltage detector 20 is responsive to differential signals appearing across the tip and ring terminals 2 and 3 for generating a corresponding single ended signal. The single ended signal and the receive signal are used to provide a composite signal which is fed to a first port of a network 40, and which is supplied to the electronic hybrid circuit via the transmit lead Tx. A loop current detector 30 is connected in series between a loop driver circuit 50 and the tip and ring terminals such that all of the current flowing along a telephone line via the tip and ring terminals 2 and 3 also traverses the loop current detector 30. The loop current detector 30 is responsive to differential current flowing via

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the tip and ring terminals for generating a line signal which is useful in an associated telephone facility for detecting ON HOOK and OFF HOOK conditions. The line signal is also supplied to a second port of the network 40. The composite signal and the line signal combine in the network 40 to provide a control signal at a third port of the network 40, which is connected to a loop driver circuit 50. The loop driver circuit 50 connects the tip and ring terminals 2 and 3 with the power terminals GRD and -V to provide a flow of energizing direct current for the operation of a telephone set while it is OFF HOOK. The loop driver circuit 50 also drives alternating current signals via the tip and ring terminals, such that the line interface circuit terminates the telephone line with a characteristic impedance which substantially corresponds to a predetermined preferred impedance. For example throughout North America, most operating telephone companies require a terminating impedance which is equivalent to 900 ohms in series with 2.16 microfarads." (See McGinn, col. 4, lines 18-51).

It is clearly evident from at least the disclosure of McGinn depicted above that the invention of McGinn is directed to a line interface circuit for coupling signals between a telephone line and a hybrid circuit. There is absolutely no teaching, suggestion or disclosure in McGinn for a transmission line tap circuit, as taught and claimed by at least the Applicant's claim 1. More specifically, McGinn does not teach "at least two input terminals configured for coupling to a transmission line" as claimed in at least claim 1. In the invention of the Applicant, two input terminals are implemented to tap a transmission signal from a transmission line for the purposes of affecting a single stage balanced amplification circuit. In contrast, in McGinn a tip and a ring terminal are taught for connection to the tip and ring leads of a telephone line and not to tap a portion of a transmission signal.

The Applicant further teaches and claims "at least two output terminals configured for coupling said transmission signal to the at least one LIU." The two branches of the single stage balanced amplification circuit terminate in two output terminals configured for coupling the tapped transmission signal to a LIU. In contrast to the invention of the Applicant, there is absolutely no teaching, suggestion or disclosure in McGinn for two output terminals configured for coupling a tapped transmission signal to at least one LIU as taught by the Applicant's

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specification and claimed in at least the Applicant's claim 1. The Examiner, in the Office Action, alleges that elements 61 and 64 of FIG. 2 of McGinn teach the two output terminals and that the hybrid circuit of McGinn teaches the LIU claimed in the Applicant's claim 1. The Applicant respectfully disagrees. McGinn specifically teaches "Receive signals from the electronic hybrid circuit and destined for the telephone line are coupled via the receive terminal Rx, labelled 61, and a resistor 62 to the input of the differential amplifier 25. The output of the amplifier 25 is connected to the first port of the network 40, and to the transmit terminal Tx, labelled 64." (See McGinn, col. 5, lines 10-16). It is clearly evident from at least the teachings of McGinn depicted above that in McGinn, there are not two two output terminals configured for coupling a transmission signal to the at least one LIU. In fact, McGinn merely teaches that signals from the hybrid circuit (i.e., the LIU) are coupled to a telephone line via one of the ports that the Examiner equates with the two output ports of McGinn. Furthermore, there is absolutely not teaching, suggestion or disclosure in McGinn that a transmission signal from a transmission line is coupled to an LIU via the two output terminals as claimed in at least the Applicant's claim 1.

From at least the discussion presented above, it is clear that McGinn fails to teach, suggest or disclose each and every element of the Applicant's claimed invention, at least with respect to claim 1, arranged as in the Applicant's claims.

Therefore, the Applicant respectfully submits that Independent claim 1, as it now stands, is not anticipated by McGinn and fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder.

Likewise, independent claims 18 and 20 recite similar relevant features as recited in independent claim 1. As such, and for at least the reasons stated herein, the Applicant respectfully submits that independent claims 18 and 20, as they now stand, are not anticipated by McGinn and also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

Furthermore, dependent claims 2-17 and 19 depend, either directly or indirectly, from independent claims 1 and 18, respectively, and recite additional

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features therefor. As such, and for at least the reasons set forth herein, the Applicant submits that none of these claims are anticipated by the teachings of McGinn. Therefore the Applicant submits that all of these dependent claims also fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

The Applicant reserves the right to establish the patentability of each of the claims individually in subsequent prosecution.

C. 35 U.S.C. § 103

The Examiner has rejected claim 10 under 35 U.S.C. § 103(a) as being unpatentable over McGinn in view of Fischer et al., (United States Patent 6,205,218 B1, hereinafter "Fisher"). The rejection is respectfully traversed.

The Applicant notes that under Subtitle H of the Inventor Protection Act of 1999, for patent applications filed after November 29, 1999, 35 U.S.C. § 103(a) is amended such that subject matter which would qualify as prior art under 35 U.S.C. § 103 via 35 U.S.C. § 102(e) is now disqualified as prior art, if the subject matter of the claimed invention and the prior art are commonly owned.

Under these provisions, Fischer is excluded prior art under 35 U.S.C. § 103 with respect to the Applicant's inventions, since Fischer was filed April 28, 1997, prior to Applicant's original filing date of December 15, 2000, and Fischer issued March 20, 2001, after the Applicant's original filing date. Fischer is assigned to Lucent Technologies Inc., of Murray Hill, New Jersey, as is the subject application. In addition, the Applicant's invention was, at the time the invention was made, subject to an obligation of assignment to Lucent Technologies Inc., of Murray Hill, New Jersey.

As such, the Applicant submits that the basis for the Examiner's rejection of claim 10 relying on Fischer in view of McGinn is improper.

Furthermore, Applicant submits that McGinn alone is not enough to render the Applicant's claims 10 obvious. Specifically with respect to claim 10, the Examiner concedes that McGinn discloses two amplifiers each having respective

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feedback resistor, however does not specify the capacitor in parallel to the feedback resistor.

As such, the Applicant respectfully submits that McGinn alone does not teach, suggest or disclose the Applicant's claim 10. The Applicant further submits that the Examiner's rejection of claim 10 relying on Fischer in view of McGinn is improper. Therefore the Applicant submits that claim 10 as it now stands is not obvious in view of McGinn and Fisher and fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

D. 35 U.S.C. § 103

The Examiner has rejected claims 15 and 16 under 35 U.S.C. § 103(a) as being unpatentable over McGinn in view of Koenig et al., (United States Patent 5,881,148, hereinafter "Koenig"). The rejection is respectfully traversed.

The Applicant's claims 15 and 16 depend directly from independent claim 1 and recite further limitations therefor. The Examiner applied McGinn to claims 15 and 16 as applied above in his rejection of claim 1. However, as discussed above, the Applicant submits that McGinn fails to teach, suggest or disclose each and every element of the Applicant's claimed invention, at least with respect to claim 1, arranged as in the Applicant's claims. As such, and at least because the Applicant's claim 1 is not anticipated or made obvious by McGinn, the Applicant further submits that claims 15 and 16, which depend directly from independent claim 1 and recite further limitations therefor, are also not anticipated or made obvious by McGinn.

Furthermore, the Applicant submits that Koenig, alone, fails to teach, suggest or disclose each and every element of the Applicant's claimed invention, at least with respect to claim 1, arranged as in the Applicant's claims. More specifically, Koenig teaches "technique for powering telephone lines using an unbalanced current source and current sink; and a technique for improving attenuation/frequency distribution and return loss (impedance matching) of transformer-coupled wire-line communications circuits by using secondary series

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capacitance and an AC current pump signal source; and a generation of ringing voltage as positive voltage pulses with respect to a negative power supply voltage; and a technique for removal of AC power ripple by using an active linear floating filter for the purpose of powering telephone line circuits, and a technique for injection of real time tone samples into T1 transmissions circuits by use of a T1 framer idle code register." (See Koenig, Abstract). There is absolutely no teaching, suggestion or disclosure in Koenig for a single stage balanced amplification circuit and in particular, for a transmission line tap comprising a single stage balanced amplification circuit including at least "two input terminals configured for coupling to a transmission line", "circuitry configured to provide an impedance load to the transmission line for tapping the transmission line and receiving a transmission signal propagating there through" and "at least two output terminals configured for coupling said transmission signal to the at least one LIU" as taught by the Applicant's specification and claimed in at least the Applicant's claim 1. As such, and for at least the reasons stated above, the Applicant submits that Koenig, alone, also fails to teach, suggest or disclose each and every element of the Applicant's claimed invention, at least with respect to claim 1, arranged as in the Applicant's claims. As such, and at least because the Applicant's claim 1 is not anticipated or made obvious by Koenig, the Applicant further submits that claims 15 and 16, which depend directly from Independent claim 1 and recite further limitations therefor, are also not anticipated or made obvious by Koenig.

Furthermore, the Applicant submits that there is absolutely no suggestion or motivation to combine the references of McGinn and Koenig as cited by the Examiner. There is no suggestion in Koenig for modifying the line interface circuit of McGinn in an attempt to develop the invention of the Applicant, at least with respect to Independent claim 1.

For prior art references to be combined to render obvious a subsequent invention under 35 U.S.C. § 103, there must be something in the prior art as a whole which suggests the desirability, and thus the obviousness, of making the combination. The teachings of the references can be combined only if there is

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some suggestion or incentive in the prior art to do so. Moreover, the mere fact that a prior art structure could be modified to produce the claimed invention would not have made the modification obvious unless the prior art suggested the desirability of the modification.

The Applicant submits that no such motivation exists. However, the Applicant further submits that even if a suggestion to combine the references cited by the Examiner did exist (which the Applicant submits that no such suggestion exists), the Examiner's attention is directed to the fact that the alleged references, either singly or in any permissible combination, do not teach, suggest, or otherwise render obvious the Applicant's invention, at least with regard to the Applicant's independent claim 1. Specifically, the references cited by the Examiner, alone or in any allowable combination, fail to teach, suggest or disclose a single stage balanced amplification circuit and in particular, a transmission line tap comprising a single stage balanced amplification circuit including at least "two input terminals configured for coupling to a transmission line", "circuitry configured to provide an impedance load to the transmission line for tapping the transmission line and receiving a transmission signal propagating there through" and "at least two output terminals configured for coupling said transmission signal to the at least one LIU" as taught by the Applicant's specification and claimed in at least the Applicant's claim 1. As such and at least because McGinn and Koenig, alone or in any allowable combination, fail to teach, suggest or disclose each and every aspect of the Applicant's claim 1, the Applicant further submits that claims 15 and 16, which depend directly from independent claim 1 and recite further limitations therefor, are also not anticipated or made obvious by McGinn and Koenig, alone or in any allowable combination.

Therefore, the Applicant submits that claims 15 and 16, as they now stand, fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

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Conclusion

Thus the Applicant submits that none of the claims, presently in the application, are anticipated under the provisions of 35 U.S.C. § 102 or obvious under the provision of 35 U.S.C. § 103. Furthermore, the Applicant also submits that all of these claims now satisfy the requirements of 35 U.S.C. § 112. Consequently, the Applicant believes that all of these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Jorge Tony Villabon, Esq. at (732) 530-9404 x1131 or Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



Eamon J. Wall Attorney
Reg. No. 39,414

Dated: 4/21/04

CUSTOMER #26,291

MOSER, PATTERSON & SHERIDAN, LLP

595 Shrewsbury Avenue, Suite 100

Shrewsbury, New Jersey 07702

732-530-9404 - Telephone

732-530-9808 - Facsimile